

Amendments To The Claims

1. (Currently amended) In a voice/data vocoding device for a mobile communication system, a device for scrambling voice and data in the mobile communication system comprising:

a controller for generating an operational mode control signal to control an operational mode of the voice and data, a scrambling key feeding control signal to control data scrambling, and a sync signal generation control signal;

an operational mode processor for vocoding or bypassing a voice/data packet received from a radio channel interval, based on the operational mode control signal of the controller, wherein the operational mode processor outputs an unscrambled vocoded PCM (pulse code modulation) signal or an unscrambled bypassed voice/data packet signal;

a random number generator for generating a random number based on the scrambling key feeding control signal of the controller;

a sync signal transmitter for generating a sync signal based on the sync signal generation control signal of the controller, and sending the generated sync signal to a cable channel interval; and

a scrambler for scrambling athe unscrambled vocoded PCM signal or athe unscrambled bypassed voice/data packet of the operational mode processor using the random number generated from the random number generator and, after complete transmission of the sync signal, sending the scrambled PCM signal or voice/data packet to the cable channel interval.

2. (Original) The device as claimed in claim 1, further comprising a switching block switched to the sync signal generator under the control of the controller to send the sync signal generated from the sync signal generator to the cable channel interval and, after complete transmission of the sync signal, switched to the scrambler according to the control signal of the controller to send the scrambled signal to the cable channel interval.

3. (Original) The device as claimed in claim 1, further comprising a scrambling key feeder for feeding the stored scrambling key to the random number generator based on the control signal of the controller.

4. (Currently amended) The device as claimed in claim 1, wherein the random number generated from the random number generator includes positional information for scrambling the unscrambled vocoded PCM signal or the unscrambled bypassed voice/data packet of the operational mode processor.

5. (Currently amended) In a voice/data vocoding device for a mobile communication system, a device for descrambling voice and data in the mobile communication system comprising:

a sync signal detector for detecting a sync signal from a scrambled signal received from a cable channel interval;

a controller for generating a descrambling control signal, an operational mode control signal, and a descrambling key feeding control signal, upon detection of the sync signal at the sync signal detector;

a random number generator for generating a random number based on the descrambling key feeding control signal of the controller;

a descrambler for descrambling the scrambled signal received from the cable channel interval using the random number generated from the random number generator, based on the descrambling control signal of the controller, and wherein the descrambler outputs a descrambled PCM signal; and

an operational mode processor for vocoding athe descrambled PCM signal of the descrambler into a packet or bypassing a voice/data packet, based on the operational mode control signal of the controller, and then sending the descrambled vocoded PCM signal or the descrambled bypassed voice/data packet to a radio channel interval.

6. (Original) The device as claimed in claim 5, further comprising a switching block for switching the scrambled signal received from the cable channel interval to the descrambler, based on the control signal of the controller.

7. (Original) The device as claimed in claim 5, further comprising a descrambling key feeder for feeding the stored descrambling key to the random number generator based on the control signal of the controller.

8. (Original) The device as claimed in claim 5, wherein the random number generated from the random number generator includes positional information for descrambling the PCM signal or voice/data packet received from the cable channel interval.

9. (Currently amended) In a voice/data vocoding device for a mobile communication system, a device for scrambling/descrambling voice and data in the mobile communication system comprising:

an operational mode processor for vocoding or bypassing a voice/data packet received from a radio channel interval based on a received operational mode signal, wherein the operational mode processor outputs an unscrambled vocoded or unscrambled bypassed voice/data packet, and vocoding or bypassing a descrambled PCM signal or packet based on the operational mode signal, wherein the operational mode processor outputs a descrambled vocoded or descrambled bypassed voice/data packet;

a random number generator for generating a random number based on a received scrambling and descrambling key feeding control signal;

a sync signal transmitter for generating a sync signal based on a received control signal, and sending the generated sync signal to a cable channel interval;

a scrambler for scrambling the unscrambled vocoded PCM signal or the unscrambled bypassed voice/data packet of the operational mode processor using the random number generated from the random number generator and, after complete transmission of the sync signal, sending the scrambled PCM signal or voice/data packet to the cable channel interval;

a sync signal detector for detecting a sync signal from the scrambled signal received from the cable channel interval;

a descrambler for descrambling the scrambled signal received from the cable channel interval using the random number generated from the random number generator, based on a received descrambling control signal; and

a controller for generating the descrambling control signal to the descrambler, the scrambling and descrambling key feeding control signal, and the sync signal generation control signal, upon detection of the sync signal at the sync signal detector.

10. (Original) The device as claimed in claim 9, further comprising a descrambling key feeder for feeding the stored scrambling and descrambling keys to the random number generator based on the control signal of the controller.

11. (Currently amended) In a voice/data vocoding method for a mobile communication system, a method for scrambling voice and data in the mobile communication system comprising the steps of:

vocoding or bypassing a voice/data packet received from a radio channel interval based on a received operational mode signal;

generating a defined random number based on scrambling key information; generating a sync signal and sending the generated sync signal to a cable channel interval; and

upon complete transmission of the sync signal, scrambling the unscrambled mode-processed signal (including a PCM signal, or bypassed voice/data packet) using the random number and sending the scrambled signal to the cable channel interval.

12. (Currently amended) In a voice/data vocoding method for a mobile communication system, a method for descrambling voice and data in the mobile communication system comprising the steps of:

receiving a scrambled signal from a cable channel interval;

upon receiving the scrambled signal, detecting a sync signal from the scrambled signal;

upon detection of the sync signal, generating a random number based on a descrambling key signal;

descrambling the scrambled signal using the random number; and

vocoding a descrambled PCM signal or bypassing a descrambled packet based on an operational mode signal, and sending the descrambled vocoded PCM signal or the descrambled bypassed packet to a radio channel interval.